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hesta L. Dezwaan
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Art Unit

2878

Examiner

Stephen Yam

Applicant

Jeremy A. Fogg et al.

Appln. No.

10/783,273

Filing Date

February 20, 2004

Confirmation No.

7606

Docket No.

GEN10 P-455

Customer No.

028,167

For

AUTOMATIC VEHICLE EXTERIOR LIGHT

CONTROL SYSTEM ASSEMBLIES

Mail Stop Appeal Brief – Patents Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

TRANSMITTAL OF APPEAL BRIEF (PATENT APPLICATION – 37 CFR §41.37)

1. Transmitted herewith is the APPEAL BRIEF in this application, with respect to the Notice of Appeal filed on December 7, 2005

2. STATUS OF APPLICANT

X other than a small entity small entity

A Verified Statement:

is attached

was already filed

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	cant . No.		
3.	FEE FOR FILING APPEAL BRIEF		
	Pursuant to 37 C.F.R. §41.20(b)(2), the fee for filing the Appeal Brief is:		
	<u>X</u>	small entity other than a small entity	\$250.00 \$500.00
		,	Appeal Brief Fee Due: \$500.00
4.	EXTE	NSION OF TERM	
The proceedings herein are for a patent application and the provisions of 37 C.F.R. §1.136 apply.			
		this conditional petition is be	no extension of term is required. However, sing made to provide for the possibility that verlooked the need for a petition and fee for
5.	TOTAL FEE DUE		
	The tot	tal fee due is:	
		Appeal Brief fee: Extension fee (if any):	\$500.00 \$0.00
			TOTAL FEE DUE: \$500.00
5.	FEE PAYMENT		
	Attached is a check in the sum of		
	<u>X</u>	X Charge Account No. 07-1070 the sum of \$500.00 A duplicate of this transmittal is attached.	
6.	FEE DEFICIENCY		
1070.	X If any additional extension and/or fee is required charge Account No. 07-		

Applicant

Jeremy A. Fogg et al.

Appln. No.

10/783,273

Page

: 2

Respectfully Submitted,

JEREMY A. FOGG ET AL.

Date: FORELARY 6, 2006

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Atty. Docket No. GEN10 P-455

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AUTOMATIC VEHICLE EXTERIOR LIGHT CONTROL

SYSTEM ASSEMBLIES

Mail Stop Appeal Brief - Patents Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

APPEAL BRIEF (37 CFR §41.37)

This brief is in furtherance of the Notice of Appeal filed in this case on December 7, 2005.

The fee required under §40.20(b)(2) is enclosed. If any additional fee is required, Appellants ask that the fee be charged to Deposit Account No. 07-1070.

This brief contains these items under the following headings, and in the order set forth below (37 CFR §41.37(c)(1)):

- I. Real Party in Interest
- II. Related Appeals and Interferences
- III. Status of Claims
- IV. Status of Amendments
- V. Summary of Claimed Subject Matter
 - 1. Independent Claim 1
 - 2 Independent Claim 20

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Appellant Appln. No. Page Jeremy A Fogg et al.

10/783,273

2

- 3. Claim 2
- 4. Claim 3
- 5. Claim 4
- 6. Claim 5
- 7. Claims 6 and 21
- 8. Claim 22
- 9. Claim 23
- VI. Grounds of Rejection to be Reviewed on Appeal
- VII. Arguments
 - A. The References
 - 1. U.S. Patent No. 5,124,549 issued to Michaels et al.
 - 2. U.S. Patent No. 6,429,594 issued to Stam et al.
 - 3. U.S. Patent No. 4,708,410 issued to Blank et al.
 - B. Legal Considerations
 - 1. The rejection of claims 1, 3, 4 and 20 under 35 U.S.C. §102(b) as being anticipated by Michaels et al.
 - a. Claim 1
 - b. Claim 20
 - c. Claim 3
 - d. Claim 4
 - 2. The rejection of claims 6, 7, 21 and 22 under 35 U.S.C. §103(a) as being unpatentable over Michaels et al.
 - a. Claims 6 and 21
 - b. Claim 7
 - c. Claim 22
 - 3. The rejection of claim 2 under 35 U.S.C. §103(a) as being unpatentable over Michaels et al. in view of Stam et al.
 - a. Claim 2

Jeremy A Fogg et al.

Appln. No.

10/783,273

Page

3

4. The rejection of claims 5 and 23 under 35 U.S.C. §103(a) as being unpatentable over Michaels et al. in view of Blank et al.

a. Claim 5

b. Claim 23

C. Conclusion

VIII. Claims Appendix

IX. Evidence Appendix

X. Related Proceedings Appendix

I. Real Party in Interest

The real party in interest in this application is Gentex Corporation, the assignment to which was recorded at Reel 015021, Frame 0647 on February 20, 2004.

II. Related Appeals and Interferences

Appellants are aware of no appeals or interferences that would directly affect or be directly affected by, or have a bearing on, the Board's decision in the pending appeal.

III. Status of Claims

This is an appeal from a final rejection of claims 1-7 and 20-23 of the above-identified application. Of the claims that have been or are currently presented in this application, claims 8-19 have been cancelled; claims 1-7 and 20-23 are presently rejected. Claims 1-7 and 20-23, as last amended, are attached hereto in the Claims Appendix.

IV. Status of Amendments

Proposed amendments to the specification and claims presented in Applicants' paper dated November 14, 2005 were not entered according to an Official Communication dated November 22, 2005.

Jeremy A Fogg et al.

Appln. No.

10/783,273

Page

. 4

V. Summary of Claimed Subject Matter

1. Independent Claim 1

Independent claim 97 defines an automatic vehicle exterior light control system, comprising: (a) an attachment member and (b1) carrier/baffle configured to secure (c) an imager board within approximately 5 degrees and approximately -5 degrees of (d) a desired image sensor optical axis.

The most pertinent description in the application pertaining to the subject matter of independent claim 1 appears on page 3, paragraph [0035] through page 4, paragraph [0041]. In particular, a novel attachment member 355 (element a) and a novel carrier/baffle 430 (element b1) are configured to secure an imager board 410 within a desired angular tolerance, +/- 2.5 degree range from a nominal design value as disclosed in paragraph [0082] and within approximately 5 degrees and approximately -5 degrees of a desired image sensor optical axis as disclosed in the original claims.

Elements (c) and (d) are illustrated in various forms throughout virtually all of the drawing figures of the application. In other words, elements (c) and (d) are recited in sufficiently broad terms to encompass any of the various embodiments disclosed in this application when configured to provide an imager board alignment structure that provides accurate optical axis alignment.

Element (d) is best described starting with paragraph [0082] and ending with paragraph [0088]. The drawing figures referred to in this discussion provide additional insight.

2. Independent Claim 20

Independent claim 20 defines an automatic vehicle equipment control system, comprising: (a) an attachment member and (b2) carrier configured to secure (c) an imager board within approximately 5 degrees and approximately -5 degrees of (d) a desired image sensor optical axis, said attachment member and said carrier cooperate to define an actual image sensor optical axis.

Jeremy A Fogg et al.

Appln. No.

10/783,273

Page

5

The most pertinent description in the application pertaining to the subject matter of independent claim 1 appears on page 3, paragraph [0035] through page 4, paragraph [0041]. In particular, a novel attachment member 355 (element a) and a novel carrier 430 (element b2) are configured to secure an imager board 410 within a desired angular tolerance, +/- 2.5 degree range from a nominal design value as disclosed in paragraph [0082] and within approximately 5 degrees and approximately -5 degrees of a desired image sensor optical axis as disclosed in the original claims. The last sentence of paragraph [0044] specifically discusses an embodiment of the invention having a carrier separate from a baffle.

Elements (c) and (d) are illustrated in various forms throughout virtually all of the drawing figures of the application. In other words, elements (c) and (d) are recited in sufficiently broad terms to encompass any of the various embodiments disclosed in this application when configured to provide an imager board alignment structure that provides accurate optical axis alignment.

Element (d) is best described starting with paragraph [0082] and ending with paragraph [0088]. The drawing figures referred to in this discussion provide additional insight.

3. Claim 2

Claim 2 depends from independent claim 1 and further recites that the control system is configured to self calibrate an image area of an image sensor to compensate for minor image sensor misalignment.

Paragraph [0083] describes the automatic aspects of the image sensor alignment.

4. Claim 3

Claim 3 depends from independent claim 1 and further recites that said imager board is vertically aligned within approximately 5 degrees and approximately -5 degrees of said desired image sensor optical axis.

Jeremy A Fogg et al.

Appln. No.

10/783,273

Page

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The discussion contained in page 3, paragraph [0035] through page 4, paragraph [0041] along with paragraph [0082] and the original claims provide support for this subject matter.

5. Claim 4

Claim 4 depends from claim 1 and further recites that said imager board is horizontally aligned within approximately 5 degrees and approximately -5 degrees of said desired image sensor optical axis.

The discussion contained in page 3, paragraph [0035] through page 4, paragraph [0041] along with paragraph [0082] and the original claims provide support for this subject matter.

6. Claim 5

Claim 5 depends from independent claim 1, respectively, and further recite that said attachment member further comprising a ball for attachment of a rearview mirror assembly.

The ball (662/762) is depicted best in Figs. 6 and 7.

7. Claims 6 and 21

Claims 6 and 21 depend from claims 1 and 20, respectively and further recites that the image sensor and at least one other device selected from the group comprising; an image sensor control logic; an A/D converter; a low voltage differential signal line driver; a temperature sensor; control output; a voltage regulator; a second image sensor; a microprocessor; a moisture sensor and a compass are integrated in a common application specific integrated chip.

Support for these features is found in paragraph [0040], the original claims and Figs.13 and 14. The provisional application to which this application claims priority is more focused on these aspects.

8. Claim 22

Jeremy A Fogg et al.

Appln. No.

10/783,273

Page

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Claim 22 depends from claim 20 further comprising at least one shim positioned at least partially between said attachment member and said carrier to define a second image sensor optical axis.

The shim (459) is best described with regard to paragraph [0045].

9. Claim 23

Claim 23 depends from claim 20 further comprising at least one device selected from the group comprising: an electro-optic mirror element; an ambient light sensor; a glare light sensor; an information display; an indicator; a microphone; a compass; an operator interface; a temperature indicator; a Bluetooth interface; a wireless transceiver; a vehicle bus interface; a passenger side restraint status display and an electro-optic mirror element control.

These features are described throughout the specifications, figures and appended original claims.

VI. Grounds of Rejection to be Reviewed on Appeal

- 1. The rejection of claims 1, 3, 4 and 20 under 35 U.S.C. §102(b) as being anticipated by Michaels et al.
- 2. The rejection of claims 6, 7, 21 and 22 under 35 U.S.C. §103(a) as being unpatentable over Michaels et al.
- 3. The rejection of claim 2 under 35 U.S.C. §103(a) as being unpatentable over Michaels et al. in view of Stam et al.
- 4. The rejection of claims 5 and 23 under 35 U.S.C. §103(a) as being unpatentable over Michaels et al. in view of Blank et al.

VII. Arguments

A. The References

1. U.S. Patent No. 5,124,549 issued to Michaels et al.

The Michaels et al. patent discloses an automatic headlamp dimmer with optical baffle. The adjustment means described in column 5, lines 54-61, of Michaels et al. is

Jeremy A Fogg et al.

Appln. No.

10/783,273

Page

8

directed to changing the position of the detector (34) (more precisely the circuit board (24), as discussed in column 6, lines 47-54) relative the associated lens (32); the adjustment screw (58) only provides for moving the height of the detector within the associated housing relative the lens. The alignment pin 46 (which the Examiner refers to as an "attachment member") of Michaels et al. are for positioning only the lens (32) as discussed in column 5, lines 9-14; the alignment pins (46) of Michaels et al. have no effect what so ever on positioning of the detector (34). The lens (32) of Michaels et al. remains stationary irrespective of the position of the adjustment screw (58); there is no way to manipulate an optical axis.

2. U.S. Patent No. 6,429,594 issued to Stam et al.

The Stam et al. patent, which is also assigned to the real party in interest, Gentex Corporation, discloses a continuously variable headlamp control. Amongst many other related apparatus Stam et al. describes an image array sensor (52) containing more pixels than are necessary to acquire an image through red and cyan filters having sufficient resolution. These additional pixels can be used to compensate for imperfections in aiming imaging the system (42) relative to controlled vehicle (20). By including additional rows and columns of pixels, rows and columns of pixels on the edge of image array sensor (52) may be disregarded to compensate for aiming variations. Methods for aiming imaging system (42) relative to controlled vehicle (20) are described with regards to FIGS. 9 through 13 of Stam et al.

3. U.S. Patent No. 4,708,410 issued to Blank et al.

The Blank et al. patent discloses a vehicle information display. A ball (92) is provided on a coupler (80) as depicted in Fig. 3B for attachment of a rearview mirror to a windshield.

B. Legal Considerations

1. The rejection of claims 1, 3, 4 and 20 under 35 U.S.C. §102(b) as being anticipated by Michaels et al.

Jeremy A Fogg et al.

Appln. No.

10/783,273

Page

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a. Claim 1

Claim 1 is an independent claim. The Examiner has rejected claim 1 under 35 U.S.C. §102(b), as being anticipated by U.S. Patent 5,124,549, to Michaels et al. The Appellants respectfully submit that the adjustment means described in column 5, lines 54-61, of Michaels et al. is directed to changing the position of the detector (more precisely the circuit board 24, as discussed in column 6, lines 47-54) relative the associated lens; the adjustment screw only provides for moving the height of the detector within the associated housing relative the lens. The Appellants respectfully submit that movement of an image sensor relative a lens will have a quite different result than movement of a single photosensitive detector relative a lens. Furthermore, the alignment pin 46 (which the Examiner refers to as an "attachment member") of Michaels et al. is not an equivalent structure to the attachment member recited in the claims of the present application; the alignment pins of Michaels et al. are for positioning only the lens as discussed in column 5, lines 9-14; the alignment pins of Michaels et al. have no effect what so ever on positioning of the detector. During the personal interview the Examiner pointed to the abstract of Michaels et al. as stating, "An adjustment mechanism provides very fine angular view adjustments....". The Appellants respectfully submit that where Michaels et al. uses either "angle" or "angular" the reference is to, "a need for a vehicle light sensor which precisely controls the entrance angle of the light and is not affected by light outside this angle" as described in column 2, lines 14-16, and elsewhere. There is no teaching within Michaels et al. regarding manipulation of an associated optical axis, let alone, teach a structure that would accomplish such a manipulation. In that the lens(32) of Michaels et al. remains stationary irrespective of the position of the adjustment screw(58) there is no way to manipulate an optical axis.

Therefore, the Appellants respectfully submit that Michaels et al. does not teach or suggest an automatic vehicle exterior light control system, comprising: an attachment member and carrier/baffle configured to secure an imager board within approximately 5 degrees and approximately -5 degrees of a desired image sensor optical axis as recited in claim 1 of the present application.

Jeremy A Fogg et al.

Appln. No.

10/783,273

Page

: 10

b. Claim 20

Claim 20 is an independent claim. The Examiner has rejected claim 20 under 35 U.S.C. §102(b), as being anticipated by U.S. Patent 5,124,549, to Michaels et al. The Appellants respectfully submit that the adjustment means described in column 5, lines 54-61, of Michaels et al. is directed to changing the position of the detector (more precisely the circuit board 24, as discussed in column 6, lines 47-54) relative the associated lens; the adjustment screw only provides for moving the height of the detector within the associated housing relative the lens. The Appellants respectfully submit that movement of an image sensor relative a lens will have a quite different result than movement of a single photosensitive detector relative a lens. Furthermore, the alignment pin 46 (which the Examiner refers to as an "attachment member") of Michaels et al. is not an equivalent structure to the attachment member recited in the claims of the present application; the alignment pins of Michaels et al. are for positioning only the lens as discussed in column 5, lines 9-14; the alignment pins of Michaels et al. have no effect what so ever on positioning of the detector. During the personal interview the Examiner pointed to the abstract of Michaels et al. as stating, "An adjustment mechanism provides very fine angular view adjustments....". The Appellants respectfully submit that where Michaels et al. uses either "angle" or "angular" the reference is to, "a need for a vehicle light sensor which precisely controls the entrance angle of the light and is not affected by light outside this angle" as described in column 2, lines 14-16, and elsewhere. There is no teaching within Michaels et al. regarding manipulation of an associated optical axis, let alone, teach a structure that would accomplish such a manipulation. In that the lens(32) of Michaels et al. remains stationary irrespective of the position of the adjustment screw(58) there is no way to manipulate an optical axis.

The Appellants respectfully submit that Michaels et al. does not teach or suggest an automatic vehicle equipment control system, comprising: an attachment member and carrier configured to secure an imager board within approximately 5 degrees and approximately -5 degrees of a desired image sensor optical axis, said attachment

Jeremy A Fogg et al.

Appln. No.

10/783,273

Page

: 11

member and said carrier cooperate to define an actual image sensor optical axis as recited in claim 20 of the present application. Therefore, the Appellants submit that claim 20 is in condition for allowance over Michaels et al.

c. Claim 3

The Examiner has rejected claim 3 under 35 U.S.C. §102(b), as being anticipated by U.S. Patent 5,124,549, to Michaels et al. In that claims 3 depends from claim 1, the Appellants submit that claim 3 is in condition for allowance over Michaels et al.

d. Claim 4

The Examiner has rejected claim 4 under 35 U.S.C. §102(b), as being anticipated by U.S. Patent 5,124,549, to Michaels et al. In that claim 4 depends from claim 1, the Appellants submit that claim 4 is in condition for allowance over Michaels et al.

2. The rejection of claims 6, 7, 21 and 22 under 35 U.S.C. §103(a) as being unpatentable over Michaels et al.

a. Claims 6 and 21

The Examiner has rejected claims 6 and 21 under 35 U.S.C. §103(a), as being unpatentable over U.S. Patent 5,124,549, to Michaels et al. These claims depend from claims 1 and 20, respectively, the Appellants submit that claims 6 and 21 are in condition for allowance over Michaels et al.

b. Claim 7

The Examiner has rejected claim 7 under 35 U.S.C. §103(a), as being unpatentable over U.S. Patent 5,124,549, to Michaels et al. In that claim 7 depends from claim 1, the Appellants submit that claim 7 is in condition for allowance over Michaels et al.

Jeremy A Fogg et al.

Appln. No.

10/783,273

Page

12

c. Claim 22

The Examiner has rejected claim 22 under 35 U.S.C. §103(a), as being unpatentable over U.S. Patent 5,124,549, to Michaels et al. In that claim 22 depends from claim 20, the Appellants submit that claim 22 is in condition for allowance over Michaels et al.

3. The rejection of claim 2 under 35 U.S.C. §103(a) as being unpatentable over Michaels et al. in view of Stam et al.

a. Claim 2

The Examiner has rejected claim 2 under 35 U.S.C. §103(a), as being unpatentable over U.S. Patent 5,124,549, to Michaels et al. in view of U.S. Patent No. 6,429,594 issued to Stam et al. In that claim 2 depends from claim 1, the Appellants submit that claim 2 is in condition for allowance over Michaels et al. in view of Stam et al.

4. The rejection of claims 5 and 23 under 35 U.S.C. §103(a) as being unpatentable over Michaels et al. in view of Blank et al.

a. Claim 5

The Examiner has rejected claim 5 under 35 U.S.C. §102(b), as being unpatentable over U.S. Patent 5,124,549, to Michaels et al. in view of U.S. Patent No. 4,708,410 issued to Blank et al. In that claim 5 depends from claim 1, the Appellants submit that claim 5 is in condition for allowance over Michaels et al. in view of Blank et al.

b. Claim 23

The Examiner has rejected claim 23 under 35 U.S.C. §102(b), as being unpatentable over U.S. Patent 5,124,549, to Michaels et al. in view of U.S. Patent No. 4,708,410 issued to Blank et al. In that claim 23 depends from claim 20, the Appellants submit that claim 23 is in condition for allowance over Michaels et al. in view of Blank et al.

Jeremy A Fogg et al.

Appln. No.

10/783,273

Page

13

C. Conclusion

For the reasons set forth above, and as is apparent from examining the invention defined by claims 1-7 and 20-23 when properly considering the cited references, these claims define patentable subject matter. Accordingly, reversal of the rejections of these claims under 35 U.S.C. §§102 and 103 is appropriate and is respectfully solicited.

> Respectfully submitted, JEREMY A. FOGG ET AL. **Gentex Corporation**

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616/772-1800



VIII. Claims Appendix (37 CFR §41.37(c)(1)(viii))

- 1. (original) An automatic vehicle exterior light control system, comprising:
- an attachment member and carrier/baffle configured to secure an imager board within approximately 5 degrees and approximately -5 degrees of a desired image sensor optical axis.
- 2. (original) An automatic vehicle exterior light control system as in claim 1 wherein the control system is configured to self calibrate an image area of an image sensor to compensate for minor image sensor misalignment.
- 3. (previously presented) An automatic vehicle exterior light control system as in claim 1 wherein said imager board is vertically aligned within approximately 5 degrees and approximately -5 degrees of said desired image sensor optical axis.
- 4. (previously presented) An automatic vehicle exterior light control system as in claim 1 wherein said imager board is horizontally aligned within approximately 5 degrees and approximately -5 degrees of said desired image sensor optical axis.
- 5. (original) An automatic vehicle exterior light control system as in claim 1, said attachment member further comprising a ball for attachment of a rearview mirror assembly.
- 6. (original) An automatic vehicle exterior light control system as in claim 1 wherein the image sensor and at least one other device selected from the group comprising; an image sensor control logic; an A/D converter; a low voltage differential signal line driver; a temperature sensor; control output; a voltage regulator; a second image sensor; a microprocessor; a moisture sensor and a compass are integrated in a common application specific integrated chip.

Jeremy A Fogg et al.

Appln. No.

10/783,273

Page

- 2

7. (original) An automatic vehicle exterior light control system as in claim 6 wherein said image sensor and said at least one other device are integrated on a common silicon wafer.

8 -19. (Cancelled)

20. (previously presented) An automatic vehicle equipment control system, comprising: an attachment member and carrier configured to secure an imager board within approximately 5 degrees and approximately -5 degrees of a desired image sensor optical axis, said attachment member and said carrier cooperate to define an actual image sensor optical axis.

- 21. (original) An automatic vehicle equipment control system as in claim 20 wherein the image sensor and at least one other device selected from the group comprising; an image sensor control logic; an A/D converter; a low voltage differential signal line driver; a temperature sensor; control output; a voltage regulator; a second image sensor; a microprocessor; a moisture sensor and a compass are integrated in a common application specific integrated chip.
- 22. (original) An automatic vehicle equipment control system as in claim 21 further comprising at least one shim positioned at least partially between said attachment member and said carrier to define a second image sensor optical axis.
- 23. (original) An automatic vehicle equipment control system as in claim 20 further comprising at least one device selected from the group comprising: an electro-optic mirror element; an ambient light sensor; a glare light sensor; an information display; an indicator; a microphone; a compass; an operator interface; a temperature indicator; a Bluetooth interface; a wireless transceiver; a vehicle bus interface; a passenger side restraint status display and an electro-optic mirror element control.

IX. Evidence Appendix (35 USC §41.37(c)(1)(ix))

There was no evidence submitted during this application under 37 CFR §§1.130, 1.131 or 1.132 or any evidence entered by the Examiner and replied upon by Appellant in the appeal.

X. Related Proceedings Appendix (35 USC §41.37(c)(1)(x))

There are no related appeals or interferences pending during this application.